

ROTOR TYPE SPRINKLER WITH REVERSING MECHANISM INCLUDING SLIDING CLUTCH AND DRIVEN BEVEL GEARS

ABSTRACT OF THE DISCLOSURE

A Pelton type turbine is mounted in a riser of a pop-up sprinkler for rotation about a horizontal axis and drives a central bevel pinion gear through a gear train reduction. Upper and lower bevel gears supported on a vertical drive shaft are simultaneously driven in opposite directions by the central bevel pinion gear. A clutch slides up and down along the drive shaft to engage radially extending teeth formed on its upper and lower sides with complementary teeth formed on the upper and lower bevel gears. One end of a yoke is coupled to the clutch and the other end is moved vertically by an over-center mechanism to shift the direction of rotation of a nozzle turret connected to the upper end of the drive shaft. The over-center mechanism is tripped back and forth by a shift disc engaged by a pair of tabs of a turret coupling assembly.